



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------|-------------|----------------------|---------------------|------------------|
| 10/074,339 | 02/12/2002 | Charles E. Taylor | 112440-792 | 5846 |
| 29190 | 7590 | 01/13/2006 | EXAMINER | |
| BELL, BOYD & LLOYD LLC | | | TRAN, THAO T | |
| P.O. BOX 1135 | | | ART UNIT | |
| CHICAGO, IL 60690-1135 | | | PAPER NUMBER | |
| | | | 1711 | |

DATE MAILED: 01/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/074,339 | Applicant(s) TAYLOR ET AL. | |
| | Examiner Thao T. Tran | Art Unit 1711 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-9,11-15,18-34 and 36-41 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9,11-15,18-34 and 36-41 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>10/20/05</u> . | 6) <input type="checkbox"/> Other: ____. |

Art Unit: 1711

DETAILED ACTION

1. This is in response to the Reply filed on 10/14/2005. The IDS filed on 10/20/2005 is also acknowledged.
2. Claims 1-2, 4-9, 11-15, 18-34, 36-41 are currently pending in this application. All pending claims are as previously presented.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 4-9, 11-15, 18-34, and 36-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima (US Pat. 4,516,991) alone or in view of Gregoire et al. (US Pat. 5,655,210) cited in the IDS of 10/20/2005.

Kawashima teaches an air cleaning apparatus that includes a plurality of dust collecting electrodes 11, ionizing wire electrodes 20, wherein the wire electrodes comprise coil springs. (See abstract; Fig. 6 & 9; col. 3, ln. 33-40; col. 6, ln. 47-52; col. 7, ln. 54-62).

Kawashima differs from the presently claimed invention in that the reference does not specify the wire electrodes when coiled is at least 15% shorter than its' straight length. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that the length of the coiled electrode would have been optimized by routine experimentation. This is because it has been known in the art that coiling is a result-effective parameter and the

Art Unit: 1711

length of the coiled electrode would have been determined depending upon different parameters, such as the size of the apparatus, the distance between the wire and the collecting electrodes, in order to bring forth maximal benefits attendant therewith.

In regards to claims 23, 25-28, 37-39, it has been within the skill in the art that how the apparatus is operated would have insignificant patentable weight in an apparatus claim.

Kawashima teaches the wire electrodes to be straight or coiled, but the reference does not teach the wire electrodes to be curved or slack. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that slight modifications of the shape of the electrodes would have insignificant patentable weight, since whether the electrodes would be coiled, slack, or curved, they would have functioned equally well and would have given the same results.

If the coiled portion in Kawashima is not part of the electrode, then the reference of Gregoire is used to remedy Kawashima.

Gregoire teaches a corona discharge device, comprising a plurality of discharge electrodes having helical coils 32 (see Fig. 7, ln. 54-58).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have employed the coil discharge electrodes as taught by Gregoire, in the apparatus of Kawashima for the purpose of achieving the desired results. The use of a coiled electrode would have enhanced the surface area and increased intensity of the discharge of the wire in a given space. Coiling has been known as a result-effective parameter and the length of the coiled electrode would have been determined depending upon different parameters, such as

Art Unit: 1711

the size of the apparatus, the distance between the wire and the collecting electrodes, in order to bring forth maximal benefits attendant therewith

Response to Arguments

5. Applicant's arguments filed on 10/14/2005 have been fully considered but they are not persuasive.

Throughout the Remarks, Applicants contend that Kawashima does not disclose or suggest an ion emitter electrode having a plurality of curves, and that the coil spring in the invention of Kawashima is not part of the electrode. However, as disclosed by Kawashima, each wire 20 has a coil spring 21 elastically extended at the lower portion thereof (see col. 4, ln. 23-25), illustrating the coil spring 21 is part of emitter wire 20. It also illustrates that the shape of the wire can be determined depending upon user's preference and intended use. Therefore, Kawashima would have been obvious over the presently claimed invention.

Conclusion

6. The rejection of the claims over Kawashima '991 maintains in this Office action. In addition, a new rejection of the claims over Kawashima '991 in view of Gregoire '210 is made. The reference of Gregoire is cited by Applicants in the IDS filed on 10/20/2005.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

Art Unit: 1711

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on 10/20/2005 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

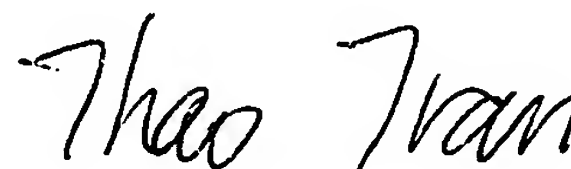
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

Art Unit: 1711

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



tt

January 9, 2006

THAO T. TRAN
PATENT EXAMINER